

WHAT IS CLAIMED IS:

1. A probe for bi-directional optical communication with a device external to the probe, the probe comprising:
 - a housing;
 - an optical transmitter mounted within the housing that generates light pulses in accordance with an electrical data signal, the optical transmitter being operated not to generate a light pulse in the absence of the electrical data signal;
 - and
 - an optical receiver mounted within the housing that generates an electrical data signal from an optical signal impinging upon the optical receiver, the optical receiver receiving a continuous light signal from an external device in the absence of a data signal at the external device.
2. The probe of claim 1, wherein the optical transmitter mounted within the housing is a light emitting diode (LED) and the optical receiver is a phototransistor.
3. The probe of claim 2, wherein the LED is a standard LED.
4. The probe of claim 2, wherein the LED generates an intense light pulse.

5. The probe of claim 2, wherein the phototransistor is a sensitive phototransistor.

6. The probe of claim 1 further comprising:

a coupler for securing the housing to an external device so the optical transmitter and the optical receiver are in close proximity to the external device to enable optical communication with at least one low intensity indicator light of the external device.

7. A probe for bi-directional optical communication with a device external to the probe, the probe comprising:

a housing;

an optical transmitter mounted within the housing that generates a light signal having a logical polarity that is the opposite of the logical polarity of the light signal generated by an indicator light associated with an external device with which the communication probe is communicating; and

an optical receiver mounted within the housing for receiving the light signal generated by the indicator light and generating an electrical data signal from the received light signal.

8. The probe of claim 7, wherein the optical transmitter mounted within the housing is a light emitting diode (LED) and the optical receiver is a phototransistor.

9. The probe of claim 8, wherein the LED is a standard LED.
10. The probe of claim 8, wherein the LED generates an intense light pulse.
11. The probe of claim 8, wherein the phototransistor is a sensitive phototransistor.
12. The probe of claim 7 further comprising:
 - a coupler for securing the housing to an external device so the optical transmitter and the optical receiver are in close proximity to the external device to enable optical communication with at least one low intensity indicator light of the external device.

13. A method for bi-directional optical communication, the method comprising:

generating light pulses in accordance with an electrical data signal except no light pulses are generated in the absence of the electrical data signal; and receiving a continuous light signal from an external device in the absence of a data signal at an external device.

14. The method of claim 13 further comprising:

securing an optical transmitter in close proximity to an external device to enable optical communication through the generated light pulses.

15. A method for bi-directional optical communication, the method comprising:

generating a light signal having a logical polarity that is the opposite of the logical polarity of the light signal generated by an indicator light associated with an external device; and

receiving a light signal generated by the indicator light and generating an electrical data signal from the received light signal.

16. The method of claim 15, wherein the generated light of the light signal represents a logical '1' and the light of the received light signal represents a logical '0'.

17. The method of claim 15, wherein the generated light of the light signal represents a logical '0' and the light of the received light represents a logical '1'.

18. A method for bi-directional optical communication, the method comprising:

generating light pulses in accordance with an electrical data signal except a continuous light pulse is generated in the absence of the electrical data signal; and

receiving no light signal from an external device in the absence of a data signal at an external device.

19. The method of claim 18 further comprising:

securing an optical transmitter in close proximity to an external device to enable optical communication through the generated light pulses.

20. The method of claim 18 wherein the logical polarity of the generated light and the received light is the same.